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REPORT

ON THE

ATLANTIC & N. C. RAILROAD.

RALEIGH:
W. W. HOLDEN, PRINTER TO THE STATE.
1854.

Raleigh, November 7th, 1854.

His Excellency David S. Reid:

Sir: I have the honor herewith to lay before you my report on the surveys of the Atlantic and North Carolina Railroad.

I have the honor to be your
Excellency's most obedient servant,
WALTER GWYNN.

REPORT.

RALEIGH, OCTOBER 17, 1854.

His Excellency, David S. Reid:

SIR: I have the honor to submit the following report and estimates of the Atlantic and North Carolina Railroad, together with a map and profile of the road. The courses of Trent river to Trent bridge, Brice's creek, Newport river, and the position of the lakes, are laid down from maps and notes of surveys made by *Mr. Jonathan Price*, kindly furnished by R. S. Donnell Esq., of Washington.

In the discharge of the important duty entrusted to me of making the surveys of this railroad, I have acted in conformity with your verbal instructions, to survey any routes that those interested in particular localities at Newbern and Beaufort harbor might desire, and in strict compliance with the 38th section of the act of incorporation, which makes an appropriation of funds, and enacts that it shall be applied in "making a survey of the most practicable route for a railroad from the most eligible point in the harbor of Beaufort by Newbern, Trenton and Kinston, to the terminus of the North Carolina Railroad at or near Goldsborough."

In accordance with these requirements, the survey was commenced in the town of Goldsborough at the terminus of the North Carolina Railroad, thence it was conducted through Kinston, to a point a mile and a half from Trenton, with which place a connection will be formed by a branch track, and thence by Newbern to Gallant's point, Beaufort and Shepherd's point on the harbor of Beaufort, and to Lennoxville on Core sound.

I would here take occasion to say that had I not been restrained by the charter, and confined to particular points, I should have taken a more direct route between Goldsborough and Newbern.

In passing Newbern two lines were run; first through the suburbs of the town: secondly, through George street; both lines crossing Trent river at Newbern. These lines are objectionable on account of the great length of the bridges across Trent river, being at points where they would be so much endangered by gales of wind, that it would be necessary to make open or uncovered bridges, thus exposing the timber to the action of the weather, and requiring a renewal of the bridges every six or seven years. With the view of avoiding these objections, I would recommend for the route of the railroad, a line skirting the bounds of Newbern, and crossing the Trent river near Claremont bridge, the position of which is established on the map before you; the cost of the road would remain about the same, while the length would be increased about half a mile. That, and a greater distance would be saved, however, on a more direct route from Goldsborough to Newbern, as heretofore indicated.

The length of the line as surveyed from Goldsborough to Gallant's point is 99 miles; to Beaufort 96.6 miles; to Lennoxville 100.36 miles; to Shepperd's point 95.84 miles, and the cost of these respective lines are $1,687,899, $1,743,690, $1,754,047 and $1,663,118.

Hence, it appears, taking Beaufort on the north side of the harbor, and Shepperd's point on the south, as the points of comparison, that the line to Shepperd's point is 3.76 miles shorter, and costs $80,572 less than the line to Beaufort. By carrying out the various computations and making the comparison, which can be readily done, the length and cost of each line compared with that of the others can be ascertained.

I have given the length of the lines, as surveyed, which are only preliminary or experimental lines; an actual location will reduce the distance to Beaufort to about 98 miles and to Shephard's point 94½ miles. The curvatures on each will not exceed 3½ miles in length, described on radii not less than 2865 feet. The maximum grades are 36 feet going west, and 32 feet east. The grades are made out in tabular form, herewith annexed, exhibiting their character on all parts of the line. I have estimated for a single track and for a superstructure with a T rail weighing 60 pounds to the yard. The drains and culverts to be tressel work, to be replaced by brick or stone as soon as the track is sufficiently advanced to afford transportation for the materials. The bridges will be built on the most substantial plan of wooden structures, resting on stone or brick abutments. The estimate also embraces warehouses, water stations, overseers' houses, workshops, 8 locomotives, 6 passenger cars, 3 baggage cars, 60 box cars, and 60 platform cars.

Gallant's point, the town of Beaufort and Lenoxville are all on the same side of the harbor. A road to Beaufort would pass near Gallant's point, and could be extended if required to Lennoxville, thus forming a continuous road, the distance from Gallant's point to Beaufort and from Beaufort to Lennoxville being links. But not so with regard to Shepperd's point which, as before described, lies on the south side of the harbor, and to reach it, I made a divergence from the line to Beaufort, commencing about 77 miles from Goldsborough, a little east of Slocum's creek. The divergence was made at this point to avoid a dense pocosin, not on account of any difficulty it presented in the construction of the road, but to save the time that would have been necessarily consumed in clearing an opening for the survey. From this point, the line, as surveyed, will be separate and distinct, forming no part of that to Beaufort. A connection could be very readily made between it and Carolina city, the site of a town laid out on Bogue sound, through which, to the main channel or harbor, Lieut. Maffit in his recent survey reports ten feet draft of water. On this route the road might also be carried across Bogue sound to the "Banks" adjoining port Macon, where there is a good and secure margin bordering on deep water.

The point of divergency above mentioned may be moved forward much nearer Newport river, or in other words, may be carried through the pocosin and made to fall on a curved line compassing the harbor and connecting the extreme points on each side, and this plan will be advisable if the views which I shall presently advance should be adopted. A greater length of road will thereby be made common to the two routes, the one leading to Beaufort, the other to Shepperd's point, and the aggregate cost of the work reduced. I have drawn this line on the map in blue ink; an examination of it will show that the road common to Beaufort and Shepperd's point will be about 88½ miles; the distance to Beaufort 98½ miles; to Shepperd's point 95 miles, and the aggregate distance to Beaufort and Shepperd's point 105 miles; the cost of which will be about $1,850,000.

At Shepperd's point, the distance from the main channel is about 3,200 feet,—at the town of Beaufort 6,270 feet, and at Gallant's point 5,610 feet: the removal of a bar at the head of Lewis' thoroughfare, would reduce this distance to about 3,200 feet, the channel from the inlet to Lennoxville, has become obstructed by the formation of bars or "bulkheads," offering not more than six or seven feet water at low tide. During the war of 1812, this was an important point for the rendezvous of privateers. The well-known, daring and adventurous

Captain Barns resorted to Lennoxville as a place of refuge as well as lookout, for which it is admirably adapted. There is no point in the vicinity which affords better protection, combined with as wide a range of observation and facility for getting under way, and giving chase to passing vessels.

The harbor of Beaufort is regarded by nautical men as one of the most accessible on our coast. In the sailing directions laid down on a chart, made under the direction of A. D. Bache, Esq., superintendent of the survey of the coast of the United States in 1851, it is stated that the harbor "affords shelter from all winds, and is easy of access. It can be entered with the wind from any point except N. & W., carrying 17 feet over the bar at mean low tide."

By the report of Lieut. Maffet, above referred to, which will be found in the appendix, it will be seen that the water has shoaled one foot in the last three years, owing to the widening of the channel, caused by the getties erected by the U. S. Government, for the protection of Fort Macon, which throws the current over against point Shackleford. I was in hopes to have had it in my power to lay before you the chart of Mr. Maffet's survey, but I am informed by the Secretary of the Navy, (who takes a zealous interest in this enterprize,) that it is not yet prepared, but he has kindly promised to send me one when it is completed, which I wlll lay before your Excellency as soon as recieved.

In confirmation of the recieved opinion as to the salubrity of the climate, which is proverbial in the eastern part of the State, I beg leave to append a table, for which I am indebted to the politeness of the Surgeon General, collated from the sick reports on file in the medical departments at Washington city. This table exhibits the diseases prevalent at Fort Macon, during its occupancy by the United States troops, and reports but two deaths. I also annex a communication on the same subject, from Col. C. Q. Tompkins, late of the army, whose general intelligence and habits of observation entitle his opinions to much weight and consideration.

I have now to consider the most important provision of the act making the appropriation for this survey. I allude to that requiring it to be made "from the most eligible point in the harbor of Beaufort."

In the requirement to select "the most eligible point in the harbor" for the terminus of the road, I recognise the intention of the Legislature to locate the road so as to facilitate the carrying into effect the long cherished object of the State, *to build up a commercial city at Beaufort harbor.* But I do not so readily comprehend what may have been their views in regard to the "most eligible point."

Supposing, however, that I am not mistaken in the object of the Legislature, and looking to the vastness of the undertaking and the magnificence of the achievement, which is no less than turning the mighty stream of commerce with its concomitants of wealth, refinement and power into new and unaccustomed channels, an undertaking every way worthy of the State, it would be derogating from the grandieur of the conception to confine our pursuit of "the most eligible point" to a search for an isolated point in the harbor, where the deepest water might be found approaching nearest the shore; or to adopt that point, when found, unless it combined other and paramount considerations.

These being the controlling views of the subject, I have been unable to fix my mind upon any particular "point." One is as attractive to my eye as another; in each I perceive an element indispensible to the fullness of the grand and noble scheme before us. Anything short of a railroad encircling the whole harbor, following all its indentations and communicating with every point, strikes me as being irreconcilable with the object to be attained, and not in harmony with the spirit and intent of the law.

This enterprise, undertaken a few years ago, before rival cities had acquired their growth, would not have been fraught with the difficulties which now attend it. Then, to insure success, it would have been sufficient to keep pace with them; now, it is necessary not only to overtake them, but to outstrip them. The cities on the Atlantic have been built up by the slow and gradual accretions of time; beginning with a fisherman's hut, they have become great seats of commerce, and the abodes of man.

The harbor of Beaufort undoubtedly possesses many advantages, only a few of which have been adverted to here; but to make it the centre of a trade, now dispersed to other places, a city must be built up in a day, every thnig, Minerva like, must spring into existence in the full perfection of matured vigor: whereas, warehouses, storehouses, and all the paraphrenalia of trade will have to be provided in as many months as in the old cities, years were employed on buildings.

To concentrate the capital, and to unite the energies of the greatest number of those personally interested on the *terminus*, it seems to me, is the proper policy to be pursued. I therefore advise a *terminus* that will benefit and embrace all points, promote harmony, and bring into activity the whole accumulated wealth, combine the energies, and stimulate the enterprise of all interested in the property bordering on the harbor; and to this end, I would recommend the immediate construction of the entire work: that is, of a road to the town of Beaufort, and also to Shepherd's point. Collateral branches from these lines to places on the harbor which they do not touch, will, in effect, make the whole harbor the *terminus*, and every point a terminal point.

But if it should not be thought advisable in the outset to incur the expense of completing the circle, and thus encompass the whole harbor, I would suggest, in conformity with the views I have expressed, that the arc of the circle, or the branch from the main stem of the road leading to the town of Beaufort, be first constructed. I recommend this as the policy best calculated to accomplish the object in view, or in the language of the Act of Assembly, as "the most eligible point on the harbor," for the reason, that while at all other points, towns and cities, exist only in *prospective*, there are centered at Beaufort a population of 1,661, engaged chiefly in commercial and maritime pursuits, who, being provided with dwellings, and possessed of wharf property, would direct the whole of their capital towards extending their business accommodations, and placing them on a scale commensurate with the increase of trade consequent on the completion of the Railroad.

The fact of there being other localities on the harbor, approximating the main channel more nearly, or that the branch Railroad to Beaufort is longer and costs more, is not, in my opinion, a sufficient argument in favor of constructing the road first to those localities, or against making Beaufort the first depository of the Railroad. For at Beaufort, as I have before observed, the outlay has already been made for dwellings, store-houses and wharf fronts: the only additional outlay required, would be for the fitting out to the channel. This would be an inconsiderable enterprise, and a small undertaking for *riparian* owners, possessed of dwellings, store-houses and town lots, compared to those which would be required to induce one to break up his domicil, and encounter, in the outset, some of the hardships and inconveniences of the emigrant, and the expenditures for a dwelling for his family, and the necessary buildings and wharfing for the transaction of business.

That the prospect of success at all the points on the harbor would justify the removal of business men from other places, and those expenditures in the commencement, I do not doubt. But time, in the case before us, is the great and essential element of success. This would be gained by selecting Beaufort for the first terminus, where the work is already more than half done. There the beginning would be prosperous, a successful and encouraging development would be at once made, inciting the rivalry of other places on the harbor now considered more eligible by those interested. They, too, would build, their success would animate others—until prosperity, the beacon of enterprise, would finally light up every point. The harbor would be crowded with shipping, a great city would spring up, an honor to the State and a testimonial of her wisdom and foresight.

In regard to the probable revenue of the road, I have no *data* upon which I could venture an opinion. The belief I entertain and have very partially expressed in the growth of a large commercial city at Beaufort harbor, is based upon the supposition of an extensive system of internal improvement, of which the railroad under consideration forms a prominent part, and would be materially affected by its failure. I have no doubt, however, of its ability to sustain itself in connection with existing works.

I ventured the opinion, in a report made some years since, that a copious source of income is the necessary consequence of the operations of a railroad; so far, this anticipatian has been everywhere realized, and will, I think, be so in this instance.

In conclusion, I take occasion to acknowledge the valuable services of Mr. W. A. Kuper, who conducted the surveys under my directions, and discharged his duties with intelligence, industry and fidelity.

I have the honor to be,
Your Excellency's very ob't serv't,
WALTER GWYNN,
Civil Engineer.

TABLE OF THE GRADES OF THE ATLANTIC & NORTH CAROLINA RAILROAD.

Commencing at Goldsboro'., and terminating at Beaufort.

Level.	Between 0 & 10 feet per mile. Asce'ing	Between 0 & 10 feet per mile. Descen'ing	Between 10 & 20 feet per mile. Asce'ing.	Between 10 & 20 feet per mile. Desc'ing	Bet'een 20 & 25 feet pr mile As'ing.	Between 20 & 25 feet per mile. Des'ing.	32 feet per mile. Asce'ing	36 feet per mile. Desc'ing.	Remarks.
Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	
38,000	23,960	2,700	4,140	11,000	1,900		22,500	27,800	To 25th mile Station, Kinston.
22,900	8,720	26,400	12,400	8,400		13,000	8,500		To 44th " " Trenton.
26,800	18,000	28,580	2,600	5,700			2,800		To 60th " " Newbern,
42,160	20,800	14,400	3,000	6,500				2,900	To 77th " " Slocumb's Cr'k.
32,490	13,900	46,000	16,400	10,800					To 99 $\frac{3430}{5280}$ " " Beaufort.
162,350	85,380	118,080	38,540	42,400	1,900	13,000	33,800	30,700	Totals.

SUMMARY OF THE GRADES ON THE LINE FROM GOLDSBORO' TO BEAUFORT.

Level, - - - - - - - - - -	30 miles, 3,950 ft.	30 miles, 3,950 ft.
Ascending between 0 and 10 feet per mile,	16 miles, 900 feet.	38 " 2,820 ft.
Descending " " " "	22 " 1,920 "	
Ascending between 10 and 20 feet per mile,	7 " 1,580 "	15 " 1,740ft.
Descending " " " "	8 " 160 "	
Ascending between 20 and 25 feet per mile,	0 " 1,900 "	2 " 4,340 ft.
Descending " " " "	2 " 2,440 "	
Ascending 32 feet per mile,		6 " 2,120 ft.
Descending 36 feet per mile,		5 " 4,300 ft.
Total distance,	99 miles, 3,430 ft.	99 miles, 3,430 ft.

SUMMARY of the Grades on the line, commencing at the 77th mile, to Sheppard's Point.

Level, - - - - - - - - - -	2 miles, 3,790 ft.	2 miles, 3,790 ft.
Ascending between 0 and 10 feet per mile,	6 miles, 3,850 ft.	11 " 1,850 ft.
Descending " " " "	4 " 3,280 ft.	
Ascending between 10 and 20 feet per mile,	2 " 840 ft.	4 " 4,080 ft.
Descending " " " "	2 " 3,240 ft.	
Total distance,	18 miles, 4,440 ft.	18 miles, 4,440 ft.

APPENDIX.

REPORT OF THE SECRETARY OF THE NAVY,

Made in compliance with a resolution of the Senate in relation to the establishmeat of a naval depot at or near the town of Beaufort, in the State of North Carolina.

June 19, 1854.—Read and ordered to lie on the table.

July 15, 1854.—Ordered to be printed; and that 3,000 additional copies be printed, of which 500 shall be for the use of the Navy Department.

Navy Department, June 15, 1854.

Sir:—In obedience to a resolution of the Senate directing the Secretary of the Navy "to inquire whether it will not be advantageous to the government of the United States to establish a naval depot at or near the town of Beaufort, in North Carolina, and that he report to the Senate at its next session," I have the honor to report that, in order to make the inquiry sufficiently full to constitute a basis for the action of the Senate, it was deemed proper not merely to obtain the opinion of the experienced officers at the head of bureaux of this department, but to submit correct information as to the character of the harbor and country "at or near the town."

I was, on examination, much disappointed to learn that a thorough and reliable survey of Beaufort harbor had not been made; and it was considered expedient to invite the assistance of the Superintendent of the Coast Survey, who promptly detailed for that duty a party attached to his branch of the public service. The party with fidelity and ability executed the task as soon as their regular duties and the condition of vessels at their command could possibly permit.

On the 14th instant I received the chart and report, giving the result of Lieutenant Maffitt's survey and explorations of Beaufort harbor. Having before him a copy of the resolution of the Senate, and appreciating the purposes of the inquiry, Lieutenant Maffitt has accompanied his chart with a luminous and interesting report, a copy of which, together with the chart, is submitted. The reports of the heads of bureaux are also submitted. The report of Lieutenant Maffitt presents with so much distinctness and fullness the peculiar position and formation of the bar, the depth of water, the character of the surrounding country, and the facilities for obtaining abundant supplies of timber and coal, as to render it unnecessary that I should do more than to commend it to the confidence and consideration of the Senate as emanating from a skilful and scientific officer, with the additional remark that, although in consideration of the number of *navy-yards* on the Atlantic coast the wants of the public service do not require more for building purposes at present, yet, in view of the convenience for obtaining abundant supplies of timber, and the contemplated connection of that point with the coal-field of the interior, now being extensively developed, and other suggestions in Lieutenant Maffit's report, that position between Norfolk and Charleston presents many advantages for a naval depot for material and coal for steamers and shelter for vessels—advantages, however, the extent of which depends much upon the correctness of the views of Lieut. Maffitt in regard to improving and rendering less variable the direction and depth of the channel and bar.

I am, sir, very respectfully,
Your obedient servant,
J. C. DOBBIN.

Hon. David R. Atchison,
President of the Senate.

Entrance to Beaufort harbor, North Carolina.

The entrance to the harbor of Beaufort, North Carolina, is seven miles, WNW. from Cape Look Out lighthouse, and easy of access in all winds, excepting those from the west and northwest.

The bar has at present 15.5 feet at mean low water.

The anchorage from abreast of Fort Macon wharf, to a point a mile and three quarters westward, is safe and completely protected from all winds.

The direction of the channel has changed materially from time to time; according to an old chart (no authority) it was SSW. with 16 feet.

In 1820, according to Kearney, it was N. & S. with 13 feet.

In 1830, according to Army, it was 18 feet.

In 1839, according to Lieut. Glynn, S. 21° 30′ E., with 15 feet in spring.

In 1850, according to Coast Survey, S. 52° 15′ E., 17 feet in low water.

In 1854, according to Coast Survey, S. 52° 15′ E., with 15.5 feet in low water.

The bar of Beaufort is composed of coarse and fine marine sand, mixed with dead shells; and, like all southern sand-bars, it is subject to the extraneous influences of sea and current. During the last thirty years this bar has varied slightly in depth, but materially in direction.

From the best evidence which could be obtained, both positive and traditionary, I have concluded that the normal depth upon the bar, at mean low water, is 16 feet. This deduction is based upon the following evidence.

Wimble's chart, published in 1737, (one hundred and seventeen years ago,) gives 18 feet as the depth on the bar at low tide.

It is also stated on good authority that Lawson's chart, published in 1718, coincides with Wimble's in the depth at low water. In evidence of the continued excellent depth of water on this bar, it may not be out of place to state that, in the year 1760, the colonial legislature granted to a company a charter authorising the connection of Beaufort with Neuse river by means of a ship canal; and, as Ocracoke bar (the natural outlet to the Neuse river) had then 12 feet at low water, the inference is that the channel had not deviated in depth since the survey of Wimble.

It is a well attested fact, that during the war of the revolution, an English cruiser drawing 22 feet entered the harbor of Beaufort, and was conducted out again by a resident pilot, who stated that "she crossed the bar with an ordinary high tide, but struck lightly several times."

In the years 1811, 1813, and 1815, serious changes as to depth and direction occurred upon this bar, which were attributed to the heavy SW. gales of those years; that of 1815 being one of the most violent and disastrous ever known upon the coast. Shackleford's point was much affected by the sea, and the site of old Fort Hampton entirely destroyed. The bar was injured so that but 12 feet could be brought over at low water.

After the year 1815, the channel-way gradually changed its direction more to the southward, the depth of the water also steadily increased until 1830, when a depth of 18 feet at low water was reported by the officers of the army.

In the year 1838, the ship Napoleon, bound for Liverpool, with naval stores, crossed the bar with a draft of 17½ feet. In 1839, the bar was surveyed by order of the Hon. J. K. Paulding, Secretary of the Navy, and "15 feet water at the lowest observed tides" reported by Lieut. Glynn, the officer in charge of the survey. In 1850 the bar was sounded out under my direction, and 17 feet found upon it at mean low water. My present survey gives 15.5 feet at mean low water. The differences noticed in the depth are attributable to local causes of a transient character, not permanently affecting the general capacity of the bar.

Point Macon has been successfully protected from the encroachment of the sea by a system of jettees; and Shackleford's point requires a like expedient, as in every gale from the southward, portions of it are washed away. The coast survey shore-lines of 1851 and 1854 differ materially, showing a large decrease of the point, the effect of which is undoubtedly injurious not only upon the direction of the channel, but also as affecting the depth of water on the bar. If this salient point, which governs so materially the ebb and flood, was protected from abrasion by the sea, the channel would probably be more fixed in its character.

A marked evidence of the value of this harbor is derived from information furnished by the Treasury Department, to the effect, that though in 1810 the gross revenue accruing to government through the custom-house at Beaufort, was but $522, in 1813 it suddenly increased to $105,214, and throughout the war it continued the like large returns to the treasury.

The geographical position of Beaufort is favorable not only for purposes of commerce, but as affording protection during northeast and easterly storms. Cape Lookout affords a natural breakwater in gales from those points, with excellent and well protected anchorage under the land—the light-house bearing east.

The Harbor.—The harbor of Beaufort may be regarded as extending from Macon Point westward, to the entrance of Bogue Sound, abreast of Shepperd's Point. It is bounded on the south by marsh lands belonging to the Fort Macon property and the Literary Society of the State. On the north by sand banks, bare at low water, and marsh land, also the property of the Literary Society. The average width of the harbor is 300 yards, exclusive of the mouth of Newport river, which also affords excellent anchorage as far as the flats. The channel here is 280 yards wide.

The marsh land traversed by Fishing Creek, bordering upon the government property, has deep water along its margin, on which wharves could be built at small expense. There are several good localities adjacent to Shepperd's point for wharves, which would not involve extraordinary outlay.

In the event of the contemplated railroad terminating at this port, all the marsh lands mentioned must become important for the necessities of commerce. My opinion strongly inclines to their selection for government purposes, as the water is bold from Fishing Creek westward, and the sand hills by the sea-shore offer the most healthy sites for dwelling houses. The selection is based upon the presumption that government designs to establish at this port only a depot for the collection of naval stores and fuel for the use of the second class steamers, which would always find this a convenient harbor for a re-supply of coal when cruising off the coast. The actual bar is but 307 yards wide, passing rapidly from 3¼ to 3½ fathoms—(over 15.5 feet at M. L. W.)

The normal depth of water on the bar I have assumed as 16 feet at mean low water, which at high water will allow sloops of war and second class steamers to enter without difficulty, while brigs and schooners and third class steamers could come in at any stage of the tide.

Harbors with such facilities on this part of the coast are too valuable to be neglected by the government. Many of our coasting schooners use this port constantly as a harbor of refuge, and the establishment of lights and buoys by the general government, to afford additional facilities for ingress and egress, would be fully warranted by the importance of this coasting trade.

On several occasions during the month of March, 1854, I have seen from 17 to 20 vessels, with valuable cargoes, anchored in this port for safety from the gales.

The establishment of a railroad depot at this place, as an outlet for the mineral wealth and agricultural resources of the interior and western parts of the State, would no doubt cause the port to grow rapidly in commercial importance.

The facilities are great for inland navigation, with Pamlico by means of Core Sound, and also with the rich county of Onslow, by the way of Bogue Sound, the navigation of which could be improved without very great expenditures of means; naval stores in abundance could be shipped here: coal and copper obtained by railroad from Chatham county, live oak from Onslow, and white oak and other timber from the adjacent country. It is certain that encouragement and increased facilities would very soon make this an important southern port. The salubrity of the place is such as to render it a rendezvous during the summer months.

I incline strongly to the opinion that jettees would save Point Shackleford, and if extended (as the land formed) would have a tendency to improve the depth of water on the bar. This point, well secured or *prolonged*, would change the current and no doubt the bar channel more to the southward, or at right angles to the coast. The result would be to force the bar promptly seaward into deep water, instead of following the coast in shoal.

Where artificial means are to be resorted to with reference to sand bar improvements, I am impressed with the conviction that if the current *can* be governed, means should be applied to force the bar seaward *into deep water at right angles to the coast.* Charleston main ship channel loses all the benefit of the ebb current by its general diffusion before it reaches the desired point. If all the ebb could be forced out *east*, that bar would have twice its present capacity.

This opinion is, of course, based upon the theory that the more contracted the outlet for a body of water, the greater will be the velocity of the current or scouring influence by which the bar is deepened, or at least kept at its uniform depth.

The channels connecting Beaufort and Lennoxville with the main harbor are intricate, that leading into the former has but six feet at mean low water. The channel around Shackelford's point leading up to the latter has eleven feet at mean low water. It is narrow and subject to constant changes. Passing Shepherd's point the channel has four fathoms.

Eleven feet at mean low water can be carried up to Gallant point; ten feet mean low water abreast of Carolina City. The channel by Bird island, though more permanent, is tortuous, and affords but nine feet at low water.

Respectfully yours,
J. N. MAFFIT, *U. S. N.*,
Assistant Coast Survey.

A. D. BACHE, Esq.,
Superintendent Coast Survey.

NAVY DEPARTMENT,
Washington, *May* 9, 1853.

SIR: The undersigned have the honor to acknowledge the receipt of letter of the 29th March last, referring to them for a report, copy of a resolution of the United States Senate, dated March 26, 1853, directing an inquiry by the Navy Department as to the advantage to the government from the establishment of a naval depot at or near the town of Beaufort in North Carolina, and respectfully beg leave to state:

That there are at this time eight navy yards and depots and two naval stations; that they are all kept in a state of necessary improvement and repair, and, in the opinion of the undersigned, are amply sufficient to meet the wants on the Atlantic coast of a much larger naval force than has yet been authorized; it would not, therefore, in our opinion be advantageous to the United States at this time to increase the naval depots for supplies by establishing one at Beaufort, North Carolina.

We have the honor to be, very respectfully, &c.,

C. MORRIS,
W. B. SHUBRICK,
JOS. SMITH.

Hon. J. C. DOBBIN,
Secretary of the Navy.

FORT MACON, BEAUFORT, NORTH CAROLINA.

	First Quarter.						Second Quarter.					
Years,	1833	1834	1835	1836	1843	1844	1833	1834	1835	1842	1843	1844
Mean strength,	Non	e gi	ven.		64	74	Non	e gi	ven.	No report.	64	73
Intermittent fever,	2	"	"	"	3	"	No report.	"	"		1	1
Remittent fever,	*4	*1	"	"	"	"		1	1		"	1
Yellow fever,	"	"	"	"	"	"		"	"		"	†6
Typhoid fever,	"	"	"	"	"	"		"	"		"	"
Eruptive fever,	"	"	"	"	"	"		1	1		"	"
Diseases of respiratory organs,	5	4	2	"	2	3		1	4		6	6
Diseases of digestive organs,	6	13	14	1	7	4		9	10		25	22
Diseases of brain and nervous system,	"	"	"	"	"	"		"	"		1	"
Diseases of serous exhalent vessels,	"	"	"	"	"	"		"	"		"	"
Diseases of fibrous and muscular tissues,	3	"	4	4	10	3		2	2		6	1
Diseases of urinary and genital organs,	2	1	"	"	5	1		2	2		1	1
Abscesses and ulcers,	2	"	3	"	5	1		1	2		3	3
Wounds and injuries,	2	2	5	"	1	3		"	7		3	1
All other diseases,	1	1	1	2	1	2		1	"		7	2
Total,	27	22	29	7	34	17		18	30		53	44

* Reported as "Inflammatory." † Reported as "Common continued fever."

FORT MACON CONTINUED.

	Third Quarter.						Fourth Quarter.				
Years,	1833	1834	1835	1842	1843	1844	1833	1834	1835	1842	1843
Mean strength,	None given.			No report.	63	75	None given.			57	58
Intermittent fever,	4	"	1		"	"	4	"	"	6	"
Remittent fever,	"	"	"		"	"	"	"	"	1	"
Yellow fever,	"	"	"		†1	†2	"	"	"	"	"
Typhoid fever,	"	"	"		"	"	"	2	"	"	"
Eruptive fever,	"	"	"		"	"	"	1	"	"	"
Diseases of respiratory organs,	2	"	"		21	"	2	5	5	1	1
Diseases of digestive organs,	18	*6	21		22	*17	4	20	15	8	8
Diseases of brain and nervous system,	"	"	"		1	"	"	"	"	"	"
Diseases of serous exhalent vessels,	"	"	"		"	"	"	"	"	"	"
Diseases of fibrous and muscular tissues,	4	"	6		3	2	2	3	5	3	3
Diseases of urinary and genital organs,	1	"	1		"	2	1	6	1	2	"
Abscesses and ulcers,	"	1	1		2	4	3	"	2	5	2
Wounds and injuries,	13	2	5		5	6	3	4	11	8	5
All other diseases,	1	"	4		1	1	2	1	"	3	1
Total,	43	9	39		56	34	21	42	39	37	20

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* One death, (from chronic hepatitis.) † One death, (from chronic dysentery. Only two deaths (as marked) reported during the whole of the above period.

Surgeon General's Office, Washington City, Aug. 14, 1854.

Charlottesville, Va., *June* 10, 1854.

Dear Colonel: The best answer to your enquiries concerning the health of Beaufort, North Carolina, would be a reference to the monthly returns of the garrison at Fort Macon. I think they would furnish very conclusive proof of the salubrity of that region. During the period of my sojourn there, (which was more than twelve months of the years 1843 and 1844,) there were no cases of malarious or endemic disease. Indeed no spot along the Atlantic coast combines so many advantages on the score of climate; for, whilst it is far enough north to be exempt from the terrible fevers of the south, it is on the other hand sufficiently south to escape the severities of the northern winters.

Independent of these considerations, the proximity of the Gulf Stream, (which must materially affect the temperature of the adjacent water,) would seem to indicate Beaufort as particularly fitted for sea bathing.

These views were entertained, I think without exception, by all with whom I was associated at Fort Macon, and are at your service for such disposition as you may choose.

Very truly your friend,

C. Q. TOMPKINS.

Col. Walter Gwynn,
Raleigh, N. C.